AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property; and

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

wherein the photographic image data or image data deduced therefrom, which represent an image comprising a plurality of image portions, are analyzed for a predefined image property and are assigned to image property values based on the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined image property in the respective image portion and the elements of the auxiliary mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary mask.

2.   (Original) Process according to claim 1, wherein an image detail removal process is applied to image data to be corrected for deducing coarse image data which represent a coarse image with less image details than the photographic image,

coarse target values are defined for at least one image property of the coarse image, the coarse target values defining the values which should be adapted by the at least one image property in the image portions of the coarse image, and

the correction mask is determined based on the coarse target values and the coarse image data such that the correction changes determine a change of the image data to be corrected such that an application of the image detail removal process to the image data corrected by the correction mask would result in corrected coarse image data or results in corrected coarse image data which represent a corrected coarse image, the values of the at least one image property of the corrected coarse image fulfilling the coarse target values or being closer to the coarse target values than the values of the at least one image property of the uncorrected coarse image.

3.   (Original) Process according to claim 1, comprising the following steps for the determination of the correction mask:

a) applying to the image data to be corrected an image detail removal process so that the resulting coarse image data represent a coarse image with less details than the original image;

b) determining a coarse correction mask on the basis of the coarse image, which for the coarse image data fixes coarse changes, which fix the changes to the at least one image property for the coarse image; and

c) determining at least one further coarse correction mask on the basis of the changed coarse image.

4.   (Original) Process according to claim 1, wherein the photographic image data describe color values in a color space, the color values are representable by vectors in this color space, and the correction changes include changes which can be represented by a mathematical operation that includes a multiplication of the vectors with a factor.

5.   (Original) Process according to claim 1, wherein at least two image properties are given, whereby the correction changes correspond to changes of one of the at least two image properties as a function of at least the other of the at least two image properties.

6.   (Original) Process according to claim 1, wherein at least two image properties are corrected and wherein the determination of the correction changes for one of the at least two image properties is carried out depending to which degree the other image property is corrected and/or pronounced.

7.   (Previously Presented) Process according to claim 5, wherein one of the at least two image properties is the color saturation and the other image property

is the brightness, and the changes of the color saturation are carried out as a function of the brightness and/or as a function of the brightness correction.

8.   (Previously Presented) Process according to claim 5, wherein one of the at least two image properties is selected from a first group consisting of the brightness and the contrast and the other image property is selected from a second group consisting of at least one of the color tone and the color saturation; and the changes to the properties in the first group are carried out as a function of the properties in the second group.

9.   (Original) Process according to one claim 1, comprising the further steps of:

a) recognizing characteristic image regions which include a multitude of image elements and comprise at least one image property by analyzing the image to be corrected or an image derived therefrom;

b) assigning to the characteristic image regions target values for the at least one nominal image property which define a target for the values of the at least one image property;

c) effecting the change by way of the correction mask in such a way that elements of the correction mask which relate to the image elements in the characteristic image region effect a change of the values of the at least one image properties such that the changed values are closer to the target values than the unchanged values or correspond thereto.

10.   (Original) Process according to claim 9, wherein a degree of match is determined on the basis of the analysis, which determines the degree of match or the probability of match of an image element with a characteristic image region, and the change of the image property is determined under consideration of both the nominal image property as well as the measure of match assigned to the respective image element.

11.   (Currently Amended) Process according to claim 1, wherein ~~the~~ a frequency distribution of the at least one image property is determined, the frequency distribution describing the frequency of a value in the image as a function of the image property determined by the value, whereby the values quantify the at least one image property in the image elements and the correction change manipulates the frequency distribution in such a way that it is at least closer to a nominal distribution which is assigned to the quantified image property than the unmanipulated frequency distribution or corresponds thereto.

12.   (Original) Process according to claim 1, wherein an image detail removal process is applied to the image data to be corrected such that the coarse image data resulting therefrom represent a coarse image which is derived from the photographic image and has less image details than the photographic image,

wherein the coarse image data define at least one image property of the coarse image;

a frequency distribution of the at least one image property of the coarse image is determined;

a target frequency distribution of the determined frequency distribution is

defined;

a coarse correction mask is determined based on the defined target frequency

distribution and the determined frequency distribution such that the application of the

coarse correction mask to the coarse image data results in a changed frequency

distribution which corresponds to the target frequency distribution or which is closer

to the target frequency distribution than the unchanged frequency distribution; and

the correction mask is determined based on the coarse correction mask.

13. (Previously Presented) Process according to claim 11, wherein the at

least one image property is brightness and/or color tone and/or color saturation

and/or color values and the target frequency distribution is such that each value of

the image property is at least approximately equally frequent at least within a

predefined value range or within predefined value ranges.

14. (Canceled)

15. (Currently Amended) Process according to claim 14, 11, wherein the

predefined image property is different from the image property to be corrected by the

correction mask.

16. (Currently Amended) Process according to claim 14, 11, wherein the

manipulation of the correction mask is not only based on the elements of the

auxiliary mask but also based on the predefined image property and/or the image property to be corrected by the correction mask.

17.   (Original) Process according to claim 1, for the expanding of a data range of image data describing an image property, whereby the image data to be expanded encompass an actual data range for a specific image property, which is smaller than the maximum possible data range represented by the image data, comprising the steps of:

a) determining an expansion function from the image data to be expanded in such a way that the extreme values of the data range of image data expanded with the function at least at one edge of the data range do not take up the extreme values of the maximally possible data range, but are located therewithin, whereby the distance of the extreme values of the expanded data range from the extreme values of the maximally possible data range is determined depending on at least one image property; and

b) applying the specific expansion function to the image data to be expanded.

18.   (Original) Process according to claim 1 for the expansion of a data range of image data describing an image property, the image data to be expanded encompassing an actual data range for a specific image property that is smaller than the maximally possible data range represented by the image data, and coarse image data being derived from the image data to be expanded by application of an image detail removal process, whereby the coarse image data represent less image detail than the image data to be expanded, the process comprising the steps of:

a) determining an expansion function from the coarse image data in such a way that the extreme values of the data range of coarse image data expanded by the function at least at one edge of the data range do not take up the extreme values of the maximally possible data range, but lie therewithin, whereby the distance of the extreme values of the expanded data range from the extreme values of the maximally possible data range is controllable; and

b) applying the specific expansion function to the image data to be expanded.

19.　　(Currently Amended)　Apparatus for the location dependent correction of photographic image data representing a photographic image with a multitude of image elements, whereby the image data determine color values and at least one image property for the image elements, the apparatus comprising,

a) a correction mask determination unit, which determines from the photographic image data to be corrected a correction mask with a multitude of correction elements, whereby the correction elements are assigned to the image elements and determine correction changes for the image data corresponding to the image elements, the correction changes corresponding to changes of the at least one image property; and

b) an application unit which applies the correction mask onto the image data, whereby the image data are changed by data processing according to the correction elements;

wherein the photographic image data or image data deduced therefrom, which represent an image comprising a plurality of image portions, are analyzed for

a predefined image property and are assigned to image property values based on the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined image property in the respective image portion and the elements of the auxiliary mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary mask.

20.   (Currently Amended) A computer ~~Computer~~ program ~~for carrying out the process according to claim 1~~ embodied in a computer readable medium for performing the steps of a

process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property; and

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

wherein the photographic image data or image data deduced therefrom, which represent an image comprising a plurality of image portions, are analyzed for

a predefined image property and are assigned to image property values based on

the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined

image property in the respective image portion and the elements of the auxiliary

mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary

mask.

21.   (Currently Amended) A computer ~~Computer~~ storage medium ~~having~~

~~stored thereon~~ storing the program according to claim 20.

22.   (Currently Amended) Photographic image reproducing installation

selected from the group of a photographic printer, a photographic lab, a minilab,

comprising an apparatus for the location dependent correction of photographic

image data representing a photographic image with a multitude of image elements,

whereby the image data determine color values and at least one image property for

the image elements, the apparatus comprising,

a) a correction mask determination unit, which determines from the

photographic image data to be corrected a correction mask with a multitude of

correction elements, whereby the correction elements are assigned to the image

elements and determine correction changes for the image data corresponding to the

image elements, the correction changes corresponding to changes of the at least

one image property; and

b) an application unit which applies the correction mask onto the image data, whereby the image data are changed by data processing according to the correction elements;

wherein the photographic image data or image data deduced therefrom, which represent an image comprising a plurality of image portions, are analyzed for a predefined image property and are assigned to image property values based on the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined image property in the respective image portion and the elements of the auxiliary mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary mask.

23.　(Currently Amended)　Photographic image reproducing installation selected from the group of a photographic printer, a photographic lab, a minilab, comprising a control device which carries out for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property; and

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

wherein the photographic image data or image data deduced therefrom, which represent an image comprising a plurality of image portions, are analyzed for a predefined image property and are assigned to image property values based on the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined image property in the respective image portion and the elements of the auxiliary mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary mask.

24.   (Currently Amended) Photographic image reproducing installation selected from the group of a photographic printer, a photographic lab, a minilab, comprising a computer on which a program is loaded for performing a process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property; and

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

wherein the photographic image data or image data deduced therefrom,
which represent an image comprising a plurality of image portions, are analyzed for
a predefined image property and are assigned to image property values based on
the analysis of the image portions in order to obtain auxiliary masks, wherein

the image property values represent respectively a value for the predefined
image property in the respective image portion and the elements of the auxiliary
mask correspond to the image property values, and

the correction mask is manipulated based on the elements of the auxiliary
mask.

25.   (Previously Presented) Process according to claim 6, wherein one of
the at least two image properties is the color saturation and the other image property
is the brightness, and the changes of the color saturation are carried out as a
function of the brightness and/or as a function of the brightness correction.

26.   (Previously Presented) Process according to claim 6, wherein one of
the at least two image properties is selected from a first group consisting of the
brightness and the contrast and the other image property is selected from a second
group consisting of at least one of the color tone and the color saturation; and the
changes to the properties in the first group are carried out as a function of the
properties in the second group.

27.   (Previously Presented) Process according to claim 12, wherein the at
least one image property is brightness and/or color tone and/or color saturation

and/or color values and the target frequency distribution is such that each value of the image property is at least approximately equally frequent at least within a predefined value range or within predefined value ranges.

28.   (New) Process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property; and

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

wherein an image detail removal process is applied to the image data to be corrected such that the coarse image data resulting therefrom represent a coarse image which is derived from the photographic image and has less image details than the photographic image, wherein the coarse image data define at least one image property of the coarse image;

a frequency distribution of the at least one image property of the coarse image is determined;

a target frequency distribution of the determined frequency distribution is defined;

a coarse correction mask is determined based on the defined target frequency distribution and the determined frequency distribution such that the application of the coarse correction mask to the coarse image data results in a changed frequency distribution which corresponds to the target frequency distribution or which is closer to the target frequency distribution than the unchanged frequency distribution; and

the correction mask is determined based on the coarse correction mask.

29.   (New) Process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property;

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements; and

for the expanding of a data range of image data describing an image property, whereby the image data to be expanded encompass an actual data range for a specific image property, which is smaller than the maximum possible data range represented by the image data, comprising the steps of:

a) determining an expansion function from the image data to be expanded in such a way that the extreme values of the data range of image data expanded with the function at least at one edge of the data range do not take up the extreme values

of the maximally possible data range, but are located therewithin, whereby the distance of the extreme values of the expanded data range from the extreme values of the maximally possible data range is determined depending on at least one image property; and

b) applying the specific expansion function to the image data to be expanded.

30. (New) Process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property;

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements; and

for the expansion of a data range of image data describing an image property, the image data to be expanded encompassing an actual data range for a specific image property that is smaller than the maximally possible data range represented by the image data, and coarse image data being derived from the image data to be expanded by application of an image detail removal process, whereby the coarse image data represent less image detail than the image data to be expanded, the process comprising the steps of:

a) determining an expansion function from the coarse image data in such a way that the extreme values of the data range of coarse image data expanded by the function at least at one edge of the data range do not take up the extreme values of the maximally possible data range, but lie therewithin, whereby the distance of the extreme values of the expanded data range from the extreme values of the maximally possible data range is controllable; and

b) applying the specific expansion function to the image data to be expanded.

31. (New) Process for the location dependent correction of photographic image data which represent a photographic image with a multitude of image elements, comprising the steps of:

a) determining a correction mask with a multitude of correction elements based on the photographic image data to be corrected, whereby the correction elements are assigned to the image elements and, for the image data corresponding to the image elements, define correction changes which correspond to changes to at least one image property;

b) applying the correction mask to the image data, whereby the image data are changed according to the correction elements;

c) recognizing characteristic image regions which include a multitude of image elements and comprise at least one image property by analyzing the image to be corrected or an image derived therefrom;

d) assigning to the characteristic image regions target values for the at least one nominal image property which define a target for the values of the at least one image property; and

e) effecting the change by way of the correction mask in such a way that elements of the correction mask which relate to the image elements in the characteristic image region effect a change of the values of the at least one image properties such that the changed values are closer to the target values than the unchanged values or correspond thereto;

wherein the degree of match is determined on the basis of the analysis, which determines the degree of match or the probability of match of an image element with a characteristic image region, and the change of the image property is determined under consideration of both the nominal image property as well as the measure of match assigned to the respective image element.